



Updates on the surveillance program on parasites of raccoon dogs and foxes in Denmark 2011-2012

Al-Sabi, Mohammad Nafi Solaiman; Chriél, Mariann; Jensen, Trine Hammer; Enemark, Heidi L.

Published in:
Tropical Medicine & International Health

Link to article, DOI:
[10.1111/tmi.12162](https://doi.org/10.1111/tmi.12162)

Publication date:
2013

[Link back to DTU Orbit](#)

Citation (APA):
Al-Sabi, M. N. S., Chriél, M., Jensen, T. H., & Enemark, H. L. (2013). Updates on the surveillance program on parasites of raccoon dogs and foxes in Denmark 2011-2012. *Tropical Medicine & International Health*, 18(S1), 96-96. [O.6.3.1.004]. <https://doi.org/10.1111/tmi.12162>

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

Updates on the surveillance program on parasites of raccoon dogs and foxes in Denmark 2011-2012

Authors (Presenting author): Mohammad Nafi Solaiman Al-Sabi^a, Mariann Chriél^b, Trine Hammer Jensen^c, Heidi Larsen Enemark^a

Affiliations: ^a Section for Bacteriology, Pathology and Parasitology, National Veterinary Institute, Technical University of Denmark, DK-1870 Frederiksberg C, Denmark

^b Section for Epidemiology, National Veterinary Institute, Technical University of Denmark, DK-1870 Frederiksberg C, Denmark

^c Department of Biotechnology, Chemistry and Environmental Engineering Aalborg University/Aalborg Zoo, DK-9000 Aalborg, Denmark

Abstract:

Raccoon dogs have recently invaded Denmark, which marked concern about potential introduction of parasites to native species. In the same time, a nation-wide surveillance program was initiated to screen red foxes for presence of *Echinococcus multilocularis*. Here, we present the results of that surveillance study, which included analyses of gastrointestinal helminths and *Trichinella* spp. in 99 raccoon dogs and 384 foxes collected from October 2009 to March 2012 in mainland and islands of Denmark. Raccoon dogs and red foxes harbored nine and 13 helminth species, respectively, many of which are potentially zoonotic. While all animals examined were *Trichinella*-free, a fox harbored 20 worms of *E. multilocularis* (0.3%). Parasites of raccoon dogs were mainly rodent-transmitted, while parasites of red foxes were mainly amphibian-transmitted, which may suggest less important role of raccoon dogs in the transmission of *E. multilocularis*. Differences in the prevalence, abundance and intestinal distribution of several parasite species were evident between the two host species. Flukes of *Alaria alata* in raccoon dogs were more prevalent and smaller in size than those recovered from foxes. In raccoon dogs, results of multivariate analysis showed that the abundances of *Mesocostoides* spp., *A. alata* and *Cryptocotyle* spp. were season-associated, while the abundance of *Cryptocotyle* spp. was associated also with the age of hosts. In foxes, regression parameters revealed increased incidence of *Uncinaria stenocephala*, *A. alata* and *Pygidiopsis summa* in adult foxes, increased incidence of *Toxocara canis*, *A. alata* and *Mesorchis denticulatus* in mainland compared to islands of Denmark, and increased incidence of *T. canis* and *Cryptocotyle* spp. in male foxes. Many biological factors may have shaped the observed differences between helminths of raccoon dogs and foxes. The results of this study showed the importance of surveillance programs in early discovery and monitoring of zoonotic infections in native and invading animals.